	Application No.	Applicant(s)
Notice of Allowability	10/591,183	OHMURO ET AL.
	Examiner	Art Unit	
	SALVADOR E. RIVAS	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to <u>Applicant's Remarks filed on October 16, 2009</u>.

2. ☒ The allowed claim(s) is/are <u>1, 3-7, 9-12, and 14-15 are renumbered 1-12, respectively</u>.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

	/Chirag G Shah/
	Supervisory Patent Examiner, Art Unit 2477

DETAILED ACTION

Information Disclosure Statement

1.   The information disclosure statement submitted on September 24, 2009 has been considered by the Examiner and made of record in the application file.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Aldo Martinez on Tuesday December 8, 2009.

In the Claims

Claim 1 (Currently Amended): A reproducing method for receiving a stream of sent audio packets containing an audio code generated by encoding an input audio data stream frame by frame and reproducing an audio signal, comprising:

(a) storing received packets in a receiving buffer;

(b) detecting, in a control part, a largest delay jitter and a number of buffered packets, the largest jitter being any of a largest value or statistical value of jitter obtained by observing arrival jitter of the received packets over a predetermined period of time and the number of buffered packets being a number of packets stored in the receiving buffer;

(c) obtaining, in a control part and based on the largest delay jitter, an optimum number of buffered packets by using a predetermined relation between the largest delay jitter and the optimum number of buffered packets, the optimum number of buffered packets being an optimum number of packets to be stored in the receiving buffer;

(d) determining, in the control part, on a scale of a plurality of levels, a difference between the detected number of buffered packets and the optimum number of buffered packets;

(e) retrieving, by the control part, a packet corresponding to a current frame from the receiving buffer and decoding an audio code in the packet to obtain a decoded audio data stream in the current frame; and

(f) performing, in a consumption adjusting part, any of expansion, reduction, and preservation of a waveform of the decoded audio data stream in accordance with a rule to make the number of buffered packets close to the optimum number of buffered packets, the rule being established for each level of the difference, and outputting a result as audio data of the current frame,

wherein step (f) includes obtaining a pitch length of the decoded audio data stream, analyzing the audio data stream to determine whether the audio data stream is in a voice segment or a non-voice segment, and performing any of expansion, reduction, and preservation by inserting or removing a waveform corresponding to the pitch length in the decoded audio string or by not changing the decoded audio

signal string, on the basis of a result of the determination of voice/non-voice

segment and a result of the determination of the difference.

Claim 5 (Currently Amended): A reproducing method for receiving a stream of

sent audio packets containing an audio code generated by encoding an input audio

data stream frame by frame and reproducing an audio signal, comprising:

(a) storing received packets in a receiving buffer;

(b) detecting, in a control part, a largest delay jitter and a number of buffered

packets, the largest jitter being any of a largest value or statistical value of jitter

obtained by observing arrival jitter of the received packets over a predetermined

period of time and the number of buffered packets being a number of packets stored

in the receiving buffer;

(c) obtaining, in a control part and based on the largest delay jitter, an optimum

number of buffered packets by using a predetermined relation between the largest

delay jitter and the optimum number of buffered packets, the optimum number of

buffered packets being an optimum number of packets to be stored in the receiving

buffer;

(d) determining, in the control part, on a scale of a plurality of levels, a difference

between the detected number of buffered packets and the optimum number of

buffered packets;

(e) retrieving, by the control part, a packet corresponding to a current frame from the receiving buffer and decoding an audio code in the packet to obtain a decoded audio data stream in the current frame; and

(f) performing, in a consumption adjusting part, any of expansion, reduction, and preservation of a waveform of the decoded audio data stream in accordance with a rule to make the number of buffered packets close to the optimum number of buffered packets, the rule being established for each level of the difference, and outputting a result as audio data of the current frame,

wherein step (f) includes obtaining the pitch length of the decoded audio data stream, analyzing the decoded audio data stream to determine which of a voiced sound segment, an unvoiced sound segment, a background noise segment, and a silence segment the decoded audio data stream is in, and performing any of expansion, reduction, and preservation of the decoded audio data stream by inserting or removing a waveform corresponding to the pitch length in the decoded audio data stream or by not changing the decoded audio data stream, on the basis of the result of the segment determination and the result of the determination of the difference level.

Allowable Subject Matter

3.   **Claims 1, 5, 7, 11, 14, and 15** are allowed.

Regarding **claim 1**, the best prior art found during the examination of the present, **Agrawal et al. (U.S. Patent # 5,623,483)**, in view of **Florencio et al. (U.S. Patent Application Publication #2005/0058145 A1)**, and further in view of **Okada et al. (U.S.**

Patent # 5,809,454) teach methods for the analysis of audio data packets and methods

for coordinating the playback of the data of audio data packets but fails to teach

"wherein step (f) includes obtaining a pitch length of the decoded audio data stream ...

and performing any of expansion, reduction, and preservation by inserting or removing

a waveform corresponding to the pitch length in the decoded audio string or by not

changing the decoded audio signal string, on the basis of a result of the determination

of voice/non-voice segment and a result of the determination of the difference."

  Claims 3 and 4 are also allowed by virtue of their dependency on claim 1.

Furthermore, the control part and the consumption adjusting part as described in claim

1 are considered to be hardware and not a signal.

  Regarding **claim 5**, the best prior art found during the examination of the present,

Agrawal et al. (U.S. Patent # 5,623,483), in view of **Florencio et al. (U.S. Patent**

Application Publication #2005/0058145 A1), and further in view of **Okada et al. (U.S.**

Patent # 5,809,454) teach methods that allow for the analysis of audio data packets

and methods for coordinating the playback of the data of audio data packets but fails to

teach *"wherein step (f) includes obtaining the pitch length of the decoded audio data*

stream, ... and performing any of expansion, reduction, and preservation of the

decoded audio data stream by inserting or removing a waveform corresponding to the

pitch length in the decoded audio data stream or by not changing the decoded audio

data stream, on the basis of the result of the segment determination and the result of

the determination of the difference level."

Claim 6 is also allowed by virtue of their dependency on claim 5. Furthermore, the control part and the consumption adjusting part as described in claim 5 are considered to be hardware and not a signal.

Regarding claim 7, the best prior art found during the examination of the present, Agrawal et al. (U.S. Patent # 5,623,483), in view of Florencio et al. (U.S. Patent Application Publication #2005/0058145 A1), and further in view of Okada et al. (U.S. Patent # 5,809,454) teach an audio reproducing apparatus that allow for the analysis of audio data packets and coordination of reproducing the data audio data packets but fails to teach *"wherein, the control part provides control to cause the consumption adjusting part to perform any of expansion, reduction, and preservation of the decoded audio data stream by inserting or removing a waveform corresponding to the pitch length in the decoded audio data stream or by not changing the decoded audio data stream, on the basis of the result of the segment determination and the result of the determination of the difference level."*

Claims 9 and 10 are also allowed by virtue of their dependency on claim 7. Furthermore, the packet receiving part, the state detecting part, the control part, and the consumption adjusting part as described in claim 7 are considered to be hardware and not a signal.

Regarding claim 11, the best prior art found during the examination of the present, Agrawal et al. (U.S. Patent # 5,623,483), in view of Florencio et al. (U.S. Patent Application Publication #2005/0058145 A1), and further in view of Okada et al. (U.S. Patent # 5,809,454) teach an audio reproducing apparatus that allow for the

analysis of audio data packets and coordination of reproducing the data in audio data packets but fails to teach wherein a control part to "*generate a control signal for instructing to perform any of expansion, reduction, and preservation of a waveform of the decoded audio data stream in accordance with a rule to make the number of buffered packets close to the optimum number of buffered packets, the rule being established for each level of the difference; an audio packet decoding part configured to decode an audio code in a packet corresponding to a current frame extracted from the receiving buffer to obtain a decoded audio data stream in the current frame; and*

a consumption adjusting configured to perform any of expansion, reduction, and preservation of the waveform of the decoded audio data stream in accordance with the control signal and outputs a result as sound data of the current frame;"

Claim 12 is also allowed by virtue of their dependency on claim 11. Furthermore, the packet receiving part, the state detecting part, the control part, and the consumption adjusting part as described in claim 11 are considered to be hardware and not a signal.

Regarding **claim 14**, the best prior art found during the examination of the present, **Agrawal et al. (U.S. Patent # 5,623,483)**, in view of **Florencio et al. (U.S. Patent Application Publication #2005/0058145 A1)**, and further in view of **Okada et al. (U.S. Patent # 5,809,454)** teach an audio reproducing apparatus comprising of a computer-readable medium storing computer-readable instructions that when the computer readable instructions are executed by a computer cause the computer to perform analysis of audio data packets and coordinating the reproduction of data in audio data packets but fails to teach computer readable instructions for "*performing any*

of expansion, reduction, and preservation of a waveform of the decoded audio data stream in accordance with a rule to make the number of buffered packets close to the optimum number of buffered packets, the rule being established for each level of the difference, and outputting a result as audio data of the current frame, wherein the performing includes obtaining a pitch length of the decoded audio data stream, analyzing the audio data stream to determine whether the audio data stream is in a voice segment or a non-voice segment, and performing any of expansion, reduction, and preservation by inserting or removing a waveform corresponding to the pitch length in the decoded audio string or by not changing the decoded audio signal string, on the basis of a result of the determination of voice/non-voice segment and a result of the determination of the difference level."

Regarding **claim 15**, the best prior art found during the examination of the present, **Agrawal et al. (U.S. Patent # 5,623,483)**, in view of **Florencio et al. (U.S. Patent Application Publication #2005/0058145 A1)**, and further in view of **Okada et al. (U.S. Patent # 5,809,454)** teach an audio reproducing apparatus comprising of a computer-readable medium storing computer-readable instructions that when the computer readable instructions are executed by a computer cause the computer to perform analysis of audio data packets and coordinating the reproduction of data in audio data packets but fails to teach computer readable instructions for "*performing any of expansion, reduction, and preservation of a waveform of the decoded audio data stream in accordance with a rule to make the number of buffered packets close to the optimum number of buffered packets, the rule being established for each*

level of the difference, and outputting a result as audio data of the current frame,

wherein the performing includes obtaining the pitch length of the decoded audio data

stream, analyzing the decoded audio data stream to determine which of a voiced sound

segment, an unvoiced sound segment, a background noise segment, and a silence

segment the decoded audio data stream is in, and performing any of expansion,

reduction, and preservation of the decoded audio data stream by inserting or removing

a waveform corresponding to the pitch length in the decoded audio data stream or by

not changing the decoded audio data stream, on the basis of a result of the segment

determination and a result of the determination of the difference level."

Conclusion

3.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed
to**:

> Commissioner for Patents
> P.O. Box 1450
> Alexandria, VA 22313-1450

> **Hand-delivered responses** should be brought to

> Customer Service Window
> Randolph Building
> 401 Dulany Street
> Alexandria, VA 22314

Any inquiry concerning this communication or early communications from the

Examiner should be directed to Salvador E. Rivas whose telephone number is (571)

270-1784. The examiner can normally be reached on Monday-Friday from 7:00AM to

3:30PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Chirag G. Shah can be reached on (571) 272- 3144. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Salvador E. Rivas
S.E.R./ser

December 08, 2009

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2477